

# Intraoperative Evaluation of Pelvic-Paraortic Lymph Nodes in Gynecologic Malignancies: Is it a Reliable Method for Assessing Lymph Node Metastasis?<sup>†</sup>

## JİNEKOLOJİK MALİGNİTELERDE İNTRAOPERATİF PELVİK-PARAAORTİK LENF NODLARININ DEĞERLENDİRİLMESİ: LENF NODU METASTAZININ DEĞERLENDİRİLMESİ İÇİN GÜVENİLİR BİR YÖNTEM MİDİR?

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### Summary

**Objective:** To assess the accuracy of macroscopic lymph node evaluation for detecting metastases in gynaecologic cancers intraoperatively.

**Material and Method:** A retrospective analysis of 41 cases undergoing pelvic and paraaortic lymphadenectomy with any type of hysterectomy for various gynecologic malignancies was performed. Exploratory findings of lymph nodes were compared with final histopathologic evaluation. Statistical analysis were made with Chi-Square test.

**Results:** Nine of 12(75%) suspicious cases because of gross appearance were diagnosed as malignant histologically. Whereas microscopic evaluation revealed that 10 cases out of 29(34%) with no sign of involvement during surgical exploration had evidences of metastasis.

**Conclusion:** We conclude that intraoperative evaluation of lymph nodes is not precise to diagnosis metastases and therefore must not replace the traditional method of evaluation, frozen section.

**Key Words:** Lymph node metastases,  
Gynecologic malignancies,  
Large lymph nodes, Ovarian cancer

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### Özet

**Amaç:** Jinekolojik kanserlerde lenf nodu metastazını ayırt etmek için intraoperatif makroskopik lenf nodu değerlendirilmesinin doğruluğunu incelemek.

**Materyal ve Metod:** Değişik jinekolojik kanserler nedeniyle paraaortik ve pelvik lenf nodu disseksiyonu ile beraber histerektomi yapılan 41 vakanın retrospektif analizi yapıldı. Laparotomi esnasındaki lenf nodu bulguları kesin histopatolojik bulgular ile karşılaştırıldı. İstatistiksel analizler için X2 testi kullanıldı.

**Bulgular:** Makroskopik görünümü nedeniyle malign olarak düşünülen 12 vakadan 9'unda (%75) histopatolojik olarak da malignite saptandı. Keza mikroskopik olarak metastaz saptanan 10 vakanın (%34) cerrahi değerlendirme esnasında lenf nodu tutulumuna ait bulgusu yoktu.

**Sonuç:** İntraoperatif makroskopik metastaz için lenf nodu değerlendirmesi yetersizdir ve geleneksel histopatolojik değerlendirme ve frozen-section yerine kullanılmamalıdır.

**Anahtar Kelimeler:** Lenf nodu metastazı,  
Jinekolojik maligniteler,  
Büyük lenf nodları, Ovarian kanser

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Lymph node metastasis (LNM) is important for tumor staging, treatment and the decision of the operative procedures in gynecologic malignancies. It can be evaluated with macroscopic appearance of lymph nodes as getting frozen section intraoperatively.

Lymph nodes enlarge because of various factors such as infection, malignancy, collagen tissue

disorders. Malignant involvement of lymph nodes may be suspected when lymph nodes are large and have invaded surrounding tissue. These type of lymph nodes are not seen frequently in gynecologic practice. On the other hand, large lymph nodes can be concomitant to malignancy because of other causes and a malignant involvement of the lymph nodes may not cause a node enlargement. These lymph nodes can be seen normal macroscopically. So we investigated to decide LNM during surgical intervention macroscopically.

**Material and Method**

Forty one cases with primary genital malignancies in which pelvic and paraaortic lymphadenectomy were performed between January 1996 and January 1998 in The Department of Obstetrics and Gynecology of Akdeniz University School of Medicine were enrolled to the study. The cases which had been treated before surgical exploration were excluded. All cases had systematic lymphadenectomy. Lymphadenectomy was performed as periaortic-pericaval (not retroaortic and retrocaval), presacral, common iliac, external iliac, hypogastric and obturator. Data were obtained from patient files and histopathologic reports.

Statistical analysis were made with X<sup>2</sup> test.

**Results**

Mean age was 57.8 (range 42-80) years, and mean lymph node number was 38.5 (range 23-66). Most of the cases had epithelial ovarian cancer as showed in Table I. The cases had any type of hysterectomy according to Rudledge classification (Table 2).

Twelve cases had macroscopic suspicious malignant lymph nodes. But three of them were histologically negative. Twenty nine patients had a normal appearance of lymph nodes and 10 of them were presented metastasis histopathologically. Negative predictive value (NPV) and specificity of macroscopic evaluation of lymph nodes were low (Table 3).

**Discussion**

First, retroperitoneal lymph node evaluation is made with palpation during the operation. If there is no palpable lymph node, tumor involvement

**Table 1.** Type of the genital malignancy of the patients

Type of Malignancy	No of Patients	Per cent (%)
Ovarian carcinoma	14	34.1
Endometrial carcinoma	11	26.8
Cervical carcinoma	8	19.5
Uterine sarcoma	7	17.0
Tubal carcinoma	1	2.4

**Table 2.** Type of hysterectomy

Operation	No of Patients	Per cent(%)
Type I hysterectomy, Omentectomy, LND*	16	39.0
Cytoreductive surgery,LND	14	34.1
Type III hysterectomy and LND	8	19.5
Type II hysterectomy, Omentectomy, LND	3	7.3

LND: Lymph node dissection.

**Table 3.** Lymph nodes status (macroscopic and microscopic) and final histopathological findings

		Histopathologic results	
		Positive	Negative
M L N S	Positive	9	3
	Negative	10	19

MLNS: Macroscopic lymph node status.  
 Positive predictive value(PPV): 0.75.  
 Negative predictive value: 0.65.  
 Sensitivity: 0.47  
 Specificity: 0.86  
 Prevalence: 0.46.

may not be thought. However, large lymph nodes can not be palpated sometimes if peritoneum is not opened (1). In our practice we have the same observations.

Usually, lymph nodes which is involved with tumor grow. On the contrary, it was reported that 17.18% of metastatic lymph nodes were small and 46.23% of all malignant lymph nodes were less than 5mm in diameter and nonpalpable in rectal

and sigmoidal adenocarcinoma (2). The same observation was reported in some other carcinomas. Saltzstein et al (3) reported that 34% (21) of the patients proved to have unsuspected nodal metastasis in prostatic adenocarcinoma. There are not reports about this subject according to MEDLINE including gynecologic malignancies. In our study, thirty four per cent of the patients was macroscopically negative but histopathologically presented tumor metastasis.

Consistency of lymph nodes is the other important characteristic of metastasis. But it is not enough to detect metastasis. It can be thought because of various causes.

There is not any definitive imaging techniques to determine lymph node metastasis before surgical exploration. Lymphangiography, computed tomography and magnetic resonance imaging verified about 85% of metastasis (4,5). Lymphangiography is more sensitive, but it takes more time and it is not routine procedures for all gynecologic malignancies.

In conclusion, macroscopic evaluation of lymph nodes is not reliable enough for nodal metastases in gynecologic malignancies intraoperatively. But it can be used combining frozen section. The definitive diagnosis should be made with a final histopathological examination.

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